

WHAT IS CLAIMED IS:

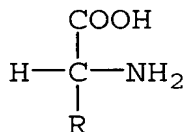
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Sub
S-17
1. A composition capable of exhibiting a detectable and measurable color transition in response to a concentration of 0% to about 20%, by weight, of a dialdehyde, said composition comprising:

- refer pg. 16,
line 20
- (a) a diamino carboxylic acid;
 - (b) a water-soluble polymer; and
 - (c) a carrier comprising water.

dye? How is color
induced?

What is the
carrier?

2. The composition of claim 1 wherein the diamino carboxylic acid has a formula:



wherein R is alkyl substituted with amino, amido guanidino, or ureido, and further optionally substituted with hydroxy.

3. The composition of claim 1 wherein the diamino carboxylic acid is selected from the group consisting of lysine, ornithine, L-2,3-diaminopropionic acid, L-2,3-diaminobutyric acid, arginine, canavanine, hydroxylysine, asparagine, glutamine, and mixtures thereof.

4. The composition of claim 1 wherein the diamino carboxylic acid is lysine, ornithine, arginine, or a mixture thereof.

5. ~~The~~ composition of claim 1 wherein the diamino carboxylic acid is present in an amount of about 1% to about 25%, by weight of the composition.

6. The composition of claim 1 wherein the diamino carboxylic acid is present in an amount of about 5% to about 15%, by weight of the composition.

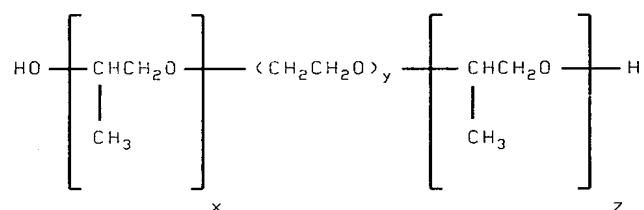
7. The composition of claim 1 wherein the water-soluble polymer comprises a nonionic polymer.

8. The composition of claim 7 wherein the polymer comprises a cellulose-based polymer.

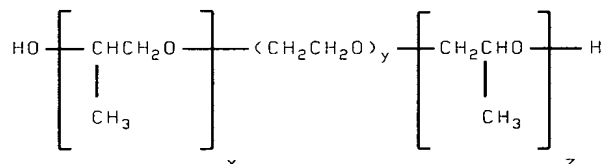
9. The composition of claim 8 wherein the cellulose-based polymer is selected from the group consisting of methylcellulose, hydroxymethylcellulose, hydroxyethylcellulose, hydroxyethylmethylcellulose, hydroxypropylcellulose, hydroxypropylmethylcellulose, carboxymethylcellulose and salts thereof, hydroxybutylcellulose, cellulose acetate, carboxymethylhydroxyethylcellulose, hydroxybutylmethylcellulose, and mixtures thereof.

10. The composition of claim 9 wherein the polymer comprises hydroxyethylcellulose.

11. The composition of claim 7 wherein the polymer is selected from the group consisting of polyvinylpyrrolidone, hydrolyzed polyvinylpyrrolidone, poly(vinyl alcohol), poly(vinyl acetate), vinyl acetate-vinyl alcohol copolymer, poly(methacrylamide), a polyoxypropylene-polyoxyethylene block polymer having a structure:



or



wherein x and z, independently, are an integer from about 4 to about 30, and y is an integer from about 4 to about 100, polyacrylamide, a vinyl alcohol copolymer, and mixtures thereof.

12. The composition of claim 7 wherein the polymer is present in an amount of 0.1% to about 5%, by weight of the composition.

13. The composition of claim 1 further comprising anionic surfactant.

14. The composition of claim 13 wherein the anionic surfactant is selected from the group consisting of an ethoxylated polysorbate, an ethoxylated alcohol, an ethoxylated phenol, a polyethylene glycol, a polypropylene glycol, an ethylene glycol-propylene glycol copolymer, an alkyl sulfate, an alkyl ether sulfate, an alkyl ether sulfonate, a sulfate ester of an alkylphenoxy polyoxyethylene ethanol, an alpha-olefin sulfonate, a beta-alkyloxy alkane sulfonate, an alkyl arylsulfonate, an alkyl carbonate, an alkyl ether carboxylate, a fatty acid, a sulfosuccinate, an alkyl ether sulfosuccinate, a sarcosinate, an octoxynol phosphate, a nonoxynol phosphate, a taurate, a fatty tauride, a sulfated monoglyceride, a fatty acid amido polyoxyethylene sulfate, and mixtures thereof.

15. The composition of claim 1 comprising:

(a) about 1% to about 25% by weight diamino carboxylic acid; and

(b) about 0.1% to about 5% by weight of hydroxypropylcellulose, hydroxyethylcellulose, methylcellulose, hydroxymethylcellulose, carboxymethylcellulose, polyvinylpyrrolidone, and mixtures thereof.

16. The composition of claim 1 wherein the carrier further comprises an organic solvent.

17. The composition of claim 16 wherein the organic solvent comprises methanol, ethanol, or acetone.

18. A method of determining a dialdehyde content of a sample containing 0% to about 20% by weight of the dialdehyde, said method comprising:

- (a) contacting the sample with an indicator reagent composition comprising:
 - (i) a diamino carboxylic acid, and
 - (ii) an optional polymer; and
- (b) determining the dialdehyde content of the sample from the intensity and degree of a color transition of the indicator reagent composition.

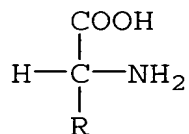
19. The method of claim 18 wherein the sample has a dialdehyde content of about 0.5% to about 6% by weight dialdehyde.

20. The method of claim 18 wherein the dialdehyde is selected from the group consisting of oxalaldehyde, malonaldehyde, succinaldehyde, glutaraldehyde, and adipaldehyde.

21. The method of claim 18 wherein the dialdehyde is glutaraldehyde.

22. The method of claim 18 wherein the intensity and degree of the color transition are determined visually or instrumentally.

23. The method of claim 18 wherein the diamino carboxylic acid has a formula:



wherein R is alkyl substituted with amino, amido, guanidino, or ureido, and further optionally substituted with hydroxy.

24. The method of claim 18 wherein the sample is an aqueous sample or a gaseous sample.

25. A method of quantitatively determining the dialdehyde content of a sample containing 0% to about 20% by weight of the dialdehyde, said method comprising:

(a) contacting the sample with an analyte detection device comprising a test pad, said test pad having incorporated therein an indicator reagent composition comprising a carrier matrix impregnated with a solution comprising:

- (i) a diamino carboxylic acid, and
- (ii) an optional polymer; and

(b) determining the dialdehyde content of the aqueous sample from the intensity and degree of a color transition of the indicator reagent composition.

26. The method of claim 25 wherein the dialdehyde is present in an aqueous solution or in a gaseous vapor.

27. A method of determining a dialdehyde content of an aqueous sample comprising:

(a) contacting the aqueous sample with an analyte detection device comprising a test pad having incorporated therein an indicator reagent composition comprising:

- (i) a diamino carboxylic acid, and
- (ii) an optional polymer; and

(b) examining the analyte detection device for a color transition; and

(c) correlating the color transition to the dialdehyde content of the aqueous sample.

28. The method of claim 27 wherein the aqueous sample has a dialdehyde content of 0% to about 20% by weight.

29. An analyte-detection device to determine a dialdehyde content of an aqueous sample comprising:

a support strip;

a test pad adhering to the support strip;

and

an indicator reagent composition incorporated into the test pad, said reagent composition comprising:

- (a) a diamino carboxylic acid, and
- (d) an optional polymer.